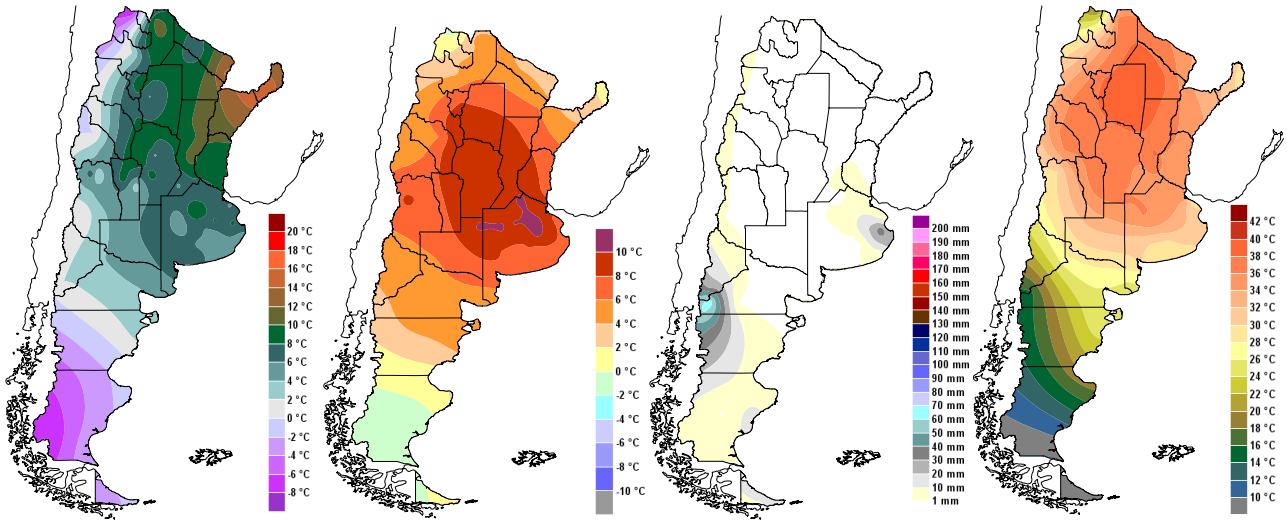
Office of Agricultural Risk – Secretariat of Agriculture, Livestock, Fisheries and Food– Buenos Aires, Argentina

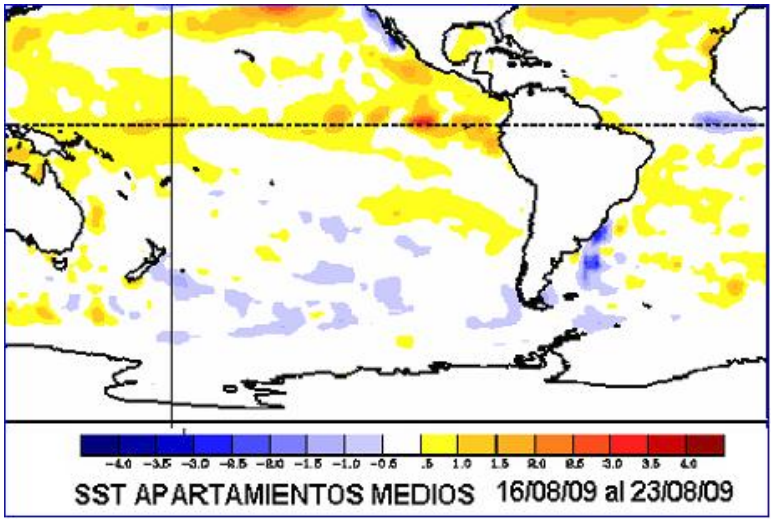
Weekly monitoring (http//www.ora.gov.ar/mapa_semanales.asp)

Maps of the weekly "lowest minimum temperatures recorded" "highest recorded maximum temperatures" "average temperature anomalies" and precipitation. Are available for users to change the variables concerning the previous weeks and their evaluation in the short term.



"EL NIÑO" and "LA NIÑA" (http//www.ora.gov.ar/ENSO)

Monthly report on the state and the forecast of "El Niño" and "La Niña"



Hydric monitoring of crop through hydrological balance (http//www.ora.gov.ar/BALANCES.asp)

By the calculation of water balances developed by the Office of Agricultural Risk weekly charts are developed to monitor the water for the crops of wheat, corn, sunflower, soybean and pasture in the Humid Pampa.

Soon the reports will be available to crops in the Chaco region

The declines in crop yields are often associated with water deficiency at flowering or excesses in the initial and final stages of the crop cycle.

Hence the interest of the Office of Agricultural Risk (ORA) to develop an operating system for monitoring the hydric situation of grain and oilseed crops grown widely in the Pampas.

To perform this monitoring, we used a water balance based on a modification of the algorithm developed by Thornthwaite and Mather (1955), considering field capacity and permanent wilting point of each soil and water requirements at each stage of the crop considered.

For the determination of future scenarios is performed synthetic generation of daily precipitation series at 30 - 60 days. Using the same balance algorithm the statistical probability to have: deficit (drought), regular, adequate or excessive reservations of water is reported at the end of the simulated period. The results differ for the same locality not only by considering different culture, but also various planting dates for the same crop. The results differ for the same locality not only by considering different crops, but also various planting dates for the same crop.

The result of the daily balance in each track point is a graph showing the evolution of water content in soil (mm) along the crop cycle. The graphic identifies the most critical periods of drought (orange) and excess water (blue)

for this crop. It is also possible to compare evolution in the current year with the values of storage averages (1970-2008) and the minimum values extremes: normal storages are those corresponding to the upper limit of the green area, while historic minimum values are located in the upper limit of the yellow area. These charts are updated weekly and available for diferent crops and locations on the page www.ora.gov.ar , being an important tool for the decisions of producers in the region.

The example in Figure 1 shows that early wheat was planted with hydric reserves below normal. Since July storages fell to historic minimum values and continued to decline until August. A month before the beginning of the critical period for the hydric deficit for this crop, we conducted a scenario estimate to 30 days in order to assess the statistical likelihood of an improve of hydric situation in the area by that date. The blue line corresponds to a damp stage (above normal rainfall, more than 80% probability), the red line corresponds to a dry stage(below normal rainfall, less than 20% probability), and the green line represents a normal rainfall scenario (intermediate situations, probability between 20 and 80%).

In Figure 1 is observed that only heavy rain is expected to reach normal values for wheat reserves at that location at the beginning of critical period or hydric stress. With normal rainfall storages will still remain well below normal values. With a continued dry scenario, the situation would continue without changes. This was at that moment the scenario foresaw by the National Weather Service for the Southeast Cordoba.

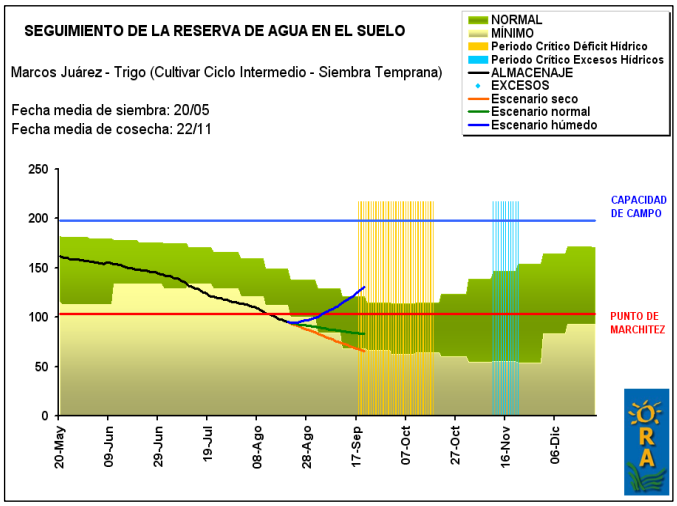


Figure 1: Monitoring of deep hydric reserves (black line) for early sowing wheat in the beginning of the season 2008-2009, and scenarios to 30 days calculated (blue, green and red lines).

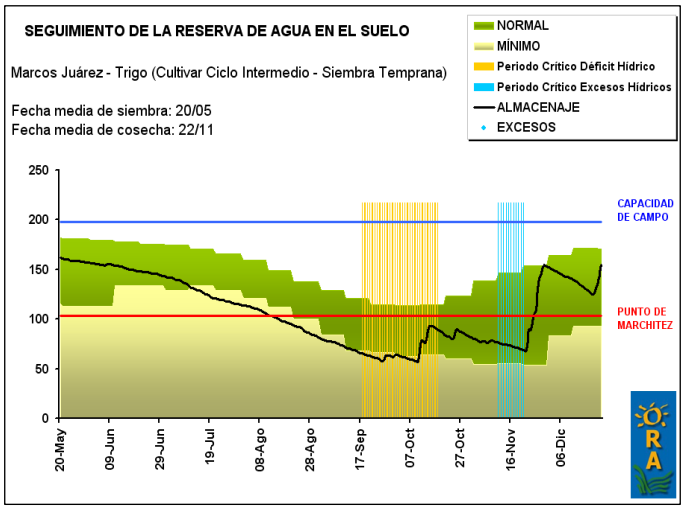


Figure 2: Monitoring of deep hydric reserves (black line) for early sowing wheat in the wheat season 2008-2009